

Response

In response to the office communication dated October 24, 2003, applicants again acknowledge with appreciation the finding that claims 4-11, 15-22, 26-33 and 37-41 are in condition for allowance. The amendments specified above and the remarks set out below are presented in support of the allowability of the other remaining claims in the application. The Applicants respectfully request an early notification of allowance.

Remarks

Claims 1 - 41 were filed with this application. Claims 34 - 36 were canceled from the application without prejudice in an earlier response and claims 37 - 41 have been canceled herewith, also without prejudice. Claims 1 - 33 remain in the application.

Note: it is noted on the Office Action Summary that "the specification is objected to by the Examiner" but no explanation of the objection appears in the Detailed Action. The Applicants therefore have made no attempt to infer the objection nor respond to it.

The Official Action states that claims 37 - 41 are objected to "as being directed toward non-statutory subject matter." The Applicants have canceled these claims without prejudice in order to move the case toward allowance.

The Official Action also states that claims 1 - 3 and 12 - 14 are rejected "under 35 U.S.C. 102(e) as being anticipated by Olafsson (U.S. Patent No. 6,332,009)." This is the same rejection that was stated with respect to these claims in the earlier Official Action dated September 30, 2002. The Applicants respectfully traverse this rejection for the reasons explained below.

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In discussing the Olafsson reference which is applicable to claim 1, the Official Action states, inter alia, that Olafsson discloses a system "for selecting a sign pattern length comprising a positive integer that is wholly divisible by four and is not wholly divisible by three" and references column 16, lines 58-64 of Olafsson in support of this assertion.

The language "a sign pattern length comprising a positive integer that is wholly divisible by four and is not wholly divisible by three" appears as a restriction in independent claims 1 and 12 hereof. In response to the earlier Official Action, Applicants pointed out that this restriction is a "key, objective requirement of the present application" and that the cited reference "does not mention such a restriction of the sign pattern length." In fact, as pointed out in that earlier response, the one example of a sign pattern length given by the reference (96) does not meet the restriction. So, this element of the present claims clearly is not present in the reference.

In apparent response to the Applicants' assertions, the current Official Action, in discussing the section of the Olafsson reference mentioned above, states that "wherein it is obvious that if a pattern of length L can be fixed to any suitable number as stated herein, then a number can be selected which is wholly divisible by four and is not wholly divisible by three." This is a clear admission that the cited reference contains no teaching or disclosure of this key claim limitation of the present application.

As mentioned above, the Official Action has held these claims to be rejected under 35 U.S.C. 102(e). However, in order to reject a claim under 35 U.S.C. 102, "the reference must teach every aspect of the claimed invention either explicitly or impliedly", MPEP 706.02. The restriction of the sign pattern length to a very specific, very limited range of numbers is a clear and key element of the presently claimed invention. This restriction requires an extra step or an extra element not required (or taught or disclosed) by the cited reference - the step or element having the purpose of selecting a sign pattern length that

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meets this restriction. As pointed out here and in Applicants' response to the earlier Official Action, the cited reference does not teach or disclose this restriction and, in fact, by using an example of a sign pattern length which does not meet the restriction, actually teaches away from the claimed restriction. Because the restriction of the sign pattern length to a whole number evenly divisible by four but not evenly divisible by three is clearly an element of the rejected claims 1 and 12, and that restriction is not present in the cited reference, either "explicitly or impliedly" as required, the Official Action has not made out a proper prima facie case of anticipation under 35 U.S.C. 102(e). The Applicants respectfully ask that this rejection be withdrawn.

Claims 2 and 3 of the present application depend directly or indirectly from claim 1 and thus include this restriction on the possible values of the sign pattern length. Likewise, claims 13 and 14 depend directly or indirectly from claim 12 and also include the restriction. As such, Applicants request that the 35 U.S.C. 102(e) rejection of claims 2, 3, 13 and 14 also be withdrawn.

The position taken by the Official Action here is analogous to saying that a new and improved process is anticipated by a prior art process where both processes are the same except the new process requires that one of the process steps be performed only in one specific, limited manner - where that manner of performing that step was not disclosed, taught or suggested by the prior art process. That is simply not the case. It might more reasonably be argued that the new, improved process is 'obvious' in light of the prior art process - since the step described in the prior art process encompassed all ways of performing that step, including the way discovered and claimed in the new application. However, in that type of situation, the new process could still be patentable if the applicants could establish that the specific, limited manner of performing the step was not obvious - using the well-know indicia of non-obviousness.

Here, the selection of a sign pattern length wholly divisible by four but not wholly

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divisible by three has unexpected and non-obvious advantages over any sign pattern length not so restricted, as described in the present application - a clear indicia of non-obviousness. As stated on page 14, starting on line 26, "...with the sign pattern length not wholly divisible by three and both the even and odd subsequences of the sign pattern having a balanced number of zeros and ones" (another requirement of present claims 1 and 12), "the K-fold repetition of that sign pattern, where K is an integer multiple of three advantageously has a balanced sign distribution in every frame interval." The advantages of such an arrangement are further explained by way of an example, the discussion starting on page 14, line 31 of the present application.

The rejection of claims 37 - 41 will not be discussed since those claims have been canceled and the rejected mooted.

The Official Action goes on to state that claims 23 - 25 are rejected "under 35 U.S.C. 103(a) as being unpatentable over Olafsson in view of Langberg et al. (U.S. Patent No. 5,852,630)." This rejection is essentially the same as the rejection discussed above. The Official Action utilizes the Langberg reference to supply the element of implementing the present invention as a program product. The discussion above with respect to claim 1 - 3 and 12 - 14 is wholly applicable here. Claim 23 includes the same restriction on the possible values of the sign pattern length and claims 24 and 25 include the restriction through dependency. The Official Action simply references the earlier discussion in rejecting the claims, and thus uses the same text from the Olafsson reference. As discussed above, the specific restrictions made on the sign pattern length in the present application are not present, nor are they suggested, in the prior art. As such, Applicants assert that the Official Action has not established a proper prima facie case of anticipation under 35 U.S.C. 102(a) with respect to claims 23-25 and respectfully ask that this rejection be withdrawn.

The Applicants note with appreciation the finding in the Official Action that the

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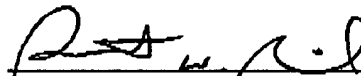
remaining claims, claims 4 - 11, 15 - 22 and 26 - 33 are allowable as written.

For the reasons given and discussed above and for the reasons stated by the Examiner with respect to the allowed claims, it is respectfully submitted that the claims remaining in the present application are in condition for allowance. Early notification of allowance of the remaining claims is therefore respectfully requested.

If the Examiner decides to maintain the rejections under 35 U.S.C. 102 discussed above, the courtesy of a telephone call to the Applicants' attorney at the number listed below is requested.

Respectfully submitted,

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